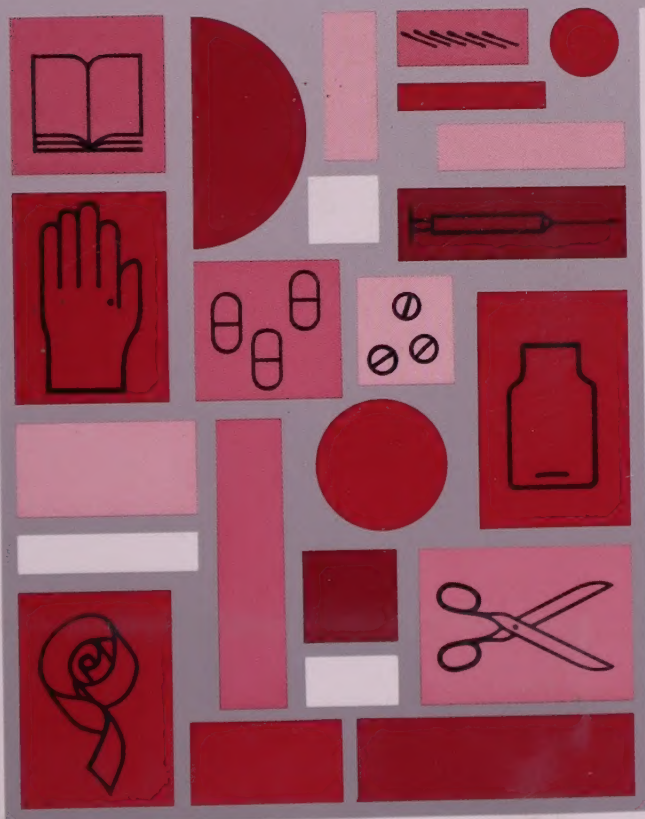


# The new emergency health kit

10000



List of drugs and medical  
supplies for 10,000 people  
for approximately

3

months

WORLD HEALTH ORGANIZATION  
GENEVA

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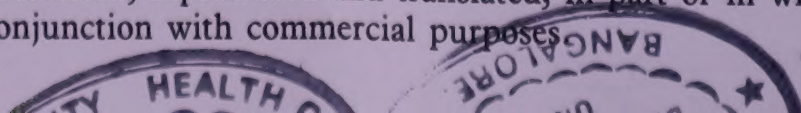
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# ***The New Emergency Health Kit***

***Lists of drugs and medical supplies  
for a population of 10,000 persons  
for approximately 3 months***

First edition 1990  
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## **List of contents**

	<i>Page</i>
Introduction	1
Chapter 1: Essential drugs and supplies in emergency situations	3
Chapter 2: Comments on the selection of drugs, medical supplies and equipment included in the kit	7
Chapter 3: Composition of the New Emergency Health Kit	10
Annexes:	
1. Basic Unit: Treatment Guidelines	21
2. Assessment and treatment of diarrhoea	26
2a Assessment of diarrhoea patients for dehydration	27
2b Treatment plan A to treat diarrhoea at home	29
2c Treatment plan B to treat dehydration	29
2d Treatment plan C to treat severe dehydration quickly	31
3. Management of the child with cough or difficult breathing	33
3a The child aged less than two months	34
3b The child aged two months to five years	35
3c Treatment instructions	36
4. Sample monthly activity report	38
5. Sample health card	39
6. Guidelines for suppliers	41
7. Useful addresses	43



THE STATE OF TEXAS,  
COUNTY OF DALLAS.I, the undersigned, Clerk of the County of Dallas, do hereby certify that the within and foregoing is a true and correct copy of the original as the same appears from the records of said County.WITNESSETH my hand and seal of office this 1st day of January, 1901.CLERK OF COUNTY.J. M. [Signature]

## **Introduction**

**I**n recent years the various organizations and agencies of the United Nations system have been called upon to respond to an increasing number of large-scale emergencies and disasters, many of which pose a serious threat to health. Much of the assistance provided in such situations by donor agencies, governments, voluntary organizations and others is in the form of drugs and medical supplies. But the practical impact of this aid is often diminished because requests do not reflect the real needs or because these have not been adequately assessed. This can result in donations of unsorted, unsuitable and unintelligibly labelled drugs, or the provision of products which have passed their expiry date. Such problems are often compounded by delays in delivery and customs clearance.

The World Health Organization, which is the directing and coordinating authority for international health work within the United Nations system, took up the question of how emergency response could be facilitated. After several years of study, field testing and modifications, standard lists of essential drugs and medical supplies for use in an emergency were developed. The aim was to encourage the standardization of drugs and medical supplies used in an emergency to permit a swift and effective response with supplies that meet priority health needs. A further goal was to promote disaster preparedness since such

standardization means that kits of essential items can be kept in readiness to meet urgent requirements.

The WHO Emergency Health Kit, which resulted from this work, was originally developed in collaboration with the Office of the United Nations High Commissioner for Refugees (UNHCR) and the London School of Hygiene and Tropical Medicine. It has now been revised in collaboration between the Action Programme on Essential Drugs (WHO, Geneva), the Emergency Preparedness and Response Unit (WHO, Geneva), the unit of Pharmaceuticals (WHO, Geneva), the Office of the United Nations High Commissioner for Refugees, UNICEF, Médecins sans Frontières, the League of Red Cross and Red Crescent Societies (Geneva), the Christian Medical Commission of the World Council of Churches and the International Committee of the Red Cross. A review of the experience of previous users of the kit, prepared by the London School of Hygiene and Tropical Medicine, as well as field experience of UNICEF and Médecins sans Frontières, were also considered during the revision. Major suppliers of the kit were consulted on the specifications of its contents.

The kit has now been adopted by many organizations and national authorities as a reliable, standardized, inexpensive, appropriate and quickly available source of the essential drugs and health





equipment included in the kit) contains more technical details and is intended for prescribers.

Publication of this document was made possible by financial contributions received from the United Nations High Commissioner for Refugees, the Government of the Netherlands, the WHO Emergency Preparedness and Response Unit and the WHO Action Programme on Essential Drugs.

equipment urgently needed in a disaster situation. Its contents are calculated to meet the needs of a population of 10,000 persons for three months. It has been renamed "The New Emergency Health Kit" because of the number and diversity of United Nations agencies and other bodies which have adopted this list of drugs and medical supplies for their emergency operations and which participated in its revision.

This booklet provides background information on the development of the kit, a description of its contents, comments on the selection of items, treatment guidelines for prescribers, and some useful checklists for suppliers and prescribers. Chapter 1 (Essential drugs and supplies in emergency situations) is intended as a general introduction for health administrators and field officers. Chapter 2 (Comments on the selection of drugs, medical supplies and



## **Chapter 1: Essential Drugs and Supplies in Emergency Situations**



### **What is an Emergency?**

**T**he term “emergency” is applied to various situations resulting from natural, political and economic disasters. The New Emergency Health Kit is not intended for the acute phase of epidemics, war, earthquake, floods, etc. but is designed to meet the needs of a population with disrupted medical facilities in the second phase of a natural or other disaster, or a displaced population without medical facilities. It has also been used in countries with acute shortages of drugs due to economic reasons.

It must be emphasized that, although supplying drugs and medical supplies in the standard kits is convenient in the

second phase of an emergency, specific local requirements need to be assessed as soon as possible and further supplies must be ordered accordingly.

### **Quantification of drug requirements**

Morbidity patterns (the relative frequency of different illnesses) may vary considerably between emergencies. For example, in emergencies where malnutrition is common morbidity rates may be very high. For this reason an estimation of drug requirements from a distance can only be approximate, although certain predictions can be made based on past experience. For the present kit estimates have been based on the average morbidity patterns and the use of standard treatment guidelines. The quantities of drugs supplied will therefore only be adequate if prescribers follow these guidelines (given in Annexes 1-3).

### **Contents of the kit**

The New Emergency Health Kit consists of two different sets of drugs and medical supplies, named a BASIC UNIT and a SUPPLEMENTARY UNIT<sup>(1)</sup>. To facilitate distribution to smaller health facilities on site, the quantities of drugs and medical supplies in the basic unit have been divided into ten identical units for 1,000 persons each.

*1) The previous version consisted of three lists: A = basic drugs; B = supplementary drugs; C = medical supplies and equipment for basic and supplementary lists.*



1,000	1,000	1,000	1,000	1,000	} 10 x 1 basic unit for 1,000 persons	} Total: <b>1 emergency health kit</b> for 10,000 persons for 3 months
1,000	1,000	1,000	1,000	1,000		
10,000					} 1 supplementary unit for 10,000 persons	

The **BASIC UNIT** contains drugs, medical supplies and some essential equipment for primary health care workers with limited training. It contains twelve drugs, none of which are injectable. Simple treatment guidelines, based on symptoms, have been developed to help the training of personnel in the proper use of the drugs. Copies of these treatment guidelines, an example of which is printed in Annexes 1-3, should be included in each unit. Additional copies can be obtained from the Action Programme on Essential Drugs, WHO, Geneva, and from UNICEF, Copenhagen (see Annex 7 for addresses).

The **SUPPLEMENTARY UNIT** contains drugs and medical supplies for a population of 10,000 and is to be used only by professional health workers or physicians. It does not contain any drugs or supplies from the basic units and can therefore only be used when these are available as well.

The selection and quantification of drugs for the basic and supplementary units have been based on recommendations for standard treatment regimens from technical units within WHO. A manual describing the standard treatment regimens for target diseases,

developed in collaboration between Médecins sans Frontières and WHO, is available from Médecins sans Frontières at cost price and is to be included in each supplementary unit.

To facilitate identification in an emergency, one green sticker (international color code for medical items) should be placed on each parcel. The word "BASIC" should be printed on stickers for basic units.

## **Referral system**

Health services can be decentralized by the use of basic health care clinics (the most peripheral level of health care) providing simple treatment using the basic units. Such a decentralization will: (1) increase the access of the population to curative care; and (2) avoid overcrowding of referral facilities by solving all common health problems at the most peripheral level. Basic treatment protocols have been drawn up to allow these health workers to take the right decision on treatment or referral, according to the symptoms (see Annexes 1-3).

The first referral level should be staffed by professional health workers, usually medical assistants or doctors, who will



use drugs, supplies and equipment from both the basic and the supplementary units. It should be stressed here that the basic and supplementary units have not been intended to enable these health workers to treat rare diseases or major surgical cases. For such patients a second level of referral is needed, usually a district or general hospital. Such facilities are normally part of the national health system and referral procedures are arranged with the local health authorities.

### ***Procurement of the kit***

The New Emergency Health Kit can be provided from a number of major pharmaceutical suppliers, some of which will have a permanent stock of kits ready for shipment within 48 hours. It may however be desirable to secure procurement at the regional level to reduce the cost of shipping. The procuring agency should ensure that manufacturers comply with the guidelines for quality, packaging and labelling of drugs (see Annex 6).

It is important to note that many drugs in the kit can be considered as examples of a therapeutic group, and that other drugs can often serve as alternatives. This should be taken into consideration when drugs are selected at the national level, since the choice of drugs may then be influenced by whether equivalent products are immediately available from local sources, and their comparative cost and quality. National authorities may wish to stockpile the same or equivalent drugs and supplies as part of their emergency preparedness

programme. The kit can also serve as a useful baseline supply list of essential drugs for primary health care.

### ***Donor guidelines***

Whatever the source of drugs, it is very important that:

- No drugs should be sent from a donor country without a specific request, or without prior clearance by the receiving country;
- No drugs should be sent that are not on the List of Essential Drugs of the receiving country, or, if such a national list is not available, on the WHO Model List of Essential Drugs;
- No drugs should arrive with a future life (before expiry date) of less than one year;
- Labelling of the drugs should be in the appropriate language(s) and should at least contain the generic name, strength, name of manufacturer and expiry date (see Annex 6);
- Labelling on the outside package should contain the same information, plus the total quantity of drugs in the package.

### ***Immunization in emergency***

Experience in past emergencies involving displacements of populations has shown measles to be one of the major causes of death among younger children. The disease spreads rapidly in overcrowded conditions, and serious respiratory tract infections are frequent, particularly in malnourished children.

An adequate supply of essential drugs may reduce the mortality rate, but measles can be prevented by immunization. A measles immunization programme should therefore be given high priority in the early phase of an emergency. The WHO Expanded Programme on Immunization (EPI), UNICEF, the Office of the High Commissioner for Refugees (UNHCR) and OXFAM have collaborated in the development of the Emergency Immunization Kit, which may be used to set up an emergency immunization programme against measles. This kit contains cold chain and injection equipment for 5,000 immunizations. Vaccines are not included.

local availability of drugs and other supplies, drug resistance, usual medical practice in the country, capabilities of the health workers and the effectiveness of the referral system.

Much time and money may be saved by adapting re-order forms to the specific needs of the situation and by standardizing re-order procedures for all locations and health teams, regardless of whether supplies are available locally or must be ordered from abroad.

### ***Post emergency needs***

After the acute phase of an emergency is over and basic health needs have been covered by the basic and supplementary units, specific needs for further supplies should be assessed as soon as possible. In most cases this will necessitate a quick description and, if possible, quantification of the morbidity profile. It should characterise the most common diseases and should identify the exposed and high risk groups in the population (e.g. children below 5 years and pregnant women). These high risk groups should be the first target of the continuing health care programme. Any other factors that may influence requirements should also be taken into account, e.g. the demographic pattern of the community, the physical condition of the individuals, seasonal variations of morbidity and mortality, the impact of improved public health measures, the



## **Chapter 2: Comments on the selection of drugs, medical supplies and equipment included in the kit**



**T**he composition of the New Emergency Health Kit is based on epidemiological data, population profiles, disease patterns and certain assumptions borne out by emergency experience. These assumptions are:

- The most peripheral level of the health care system will be staffed by health workers with only limited medical training, who will treat symptoms rather than diagnosed diseases and who will refer to the next level those patients who need more specialized treatment.

- Half of the population is 0-14 years of age.
- The average number of patients presenting themselves with the more common symptoms or diseases can be predicted.
- Standardized schedules will be used to treat these symptoms or diseases.
- The rate of referral from the basic to the next level is 10%.
- The first referral level of health care is staffed by experienced medical assistants or medical doctors, with no or very limited facilities for inpatient care.
- If both the basic and first referral health care facilities are within reasonable reach of the target population, every individual will, on average, visit such facilities four times per year for advice or treatment. As a consequence the supplies in the kit, which are sufficient for approximately 10,000 outpatient consultations, will serve a population of 10,000 people for a period of approximately three months.

### **Selection of the drugs**

#### **Injectable drugs**

There are no injectable drugs in the basic unit. Basic health workers with little training have usually not been taught to prescribe injections, neither are they trained to administer them. Moreover, the most common diseases in their uncomplicated form do not generally require an injectable drug. Any patient



who needs an injection must be referred to the first referral level.

### **Antibiotics**

Infectious bacterial diseases are common at all levels of health care, including the most peripheral, and basic health workers should therefore have the possibility to prescribe an antibiotic. However, many basic health workers have not been trained to prescribe antibiotics in a rational way. Cotrimoxazole is the only antibiotic included in the basic unit, and this will enable the health worker to concentrate on taking the right decision between prescribing an antibiotic or not, rather than on the choice between several antibiotics. Cotrimoxazole has been selected because it is active against the most common bacteria found in the field, especially *S. pneumoniae* and *H. influenzae* for acute respiratory infections. It is also stable under tropical conditions, needs to be taken only twice daily and its side-effects (exfoliative dermatitis or bone marrow depression) are uncommon. In addition to this it is less expensive than other antibiotics. The risk of increasing bacterial resistance must be reduced by rational prescribing practice.

### **Drugs not included in the kit**

The kit includes neither the common vaccines nor any drugs against communicable diseases such as tuberculosis or leprosy. The vaccines needed and any plans for an expanded programme on immunization should be discussed with the national authorities as soon as possible; the same applies for programmes to combat communicable diseases. In general no special programme

should be initiated unless there is sufficient guarantee for its continuation over a longer period.

In addition, drugs in the kit do not cover some specific health problems occurring in certain geographical areas, e.g. specific resistant malaria strains.

## ***Selection of renewable supplies***

### **Syringes and needles**

Considering the risk of direct contamination with hepatitis and AIDS during handling, needles are dangerous items. The health risk for the staff should be limited by the following means:

- Limiting the number of injections;
- Using disposable needles only;
- Strictly following the destruction procedures for disposable material.

It is less dangerous to handle syringes than needles. For this reason a system with resterilizable nylon syringes and disposable needles has been chosen for the supplementary unit. However, in the very first stage, when sterilization procedures are not yet established, some provision will be necessary for giving injections by means of fully disposable materials. A small number of disposable syringes are therefore provided in the supplementary unit and their destruction should be supervised by the person in charge.

### **Gloves**

Disposable protective gloves are provided in the basic unit to protect health



workers against possible infection during dressings or handling of infected materials. In any case a dressing should be applied or changed with the instruments provided in the kit. Surgical gloves, which should be resterilizable, are supplied in the supplementary unit. They are to be used for deliveries, sutures and minor surgery, all under medical supervision.

## ***Selection of equipment***

### **Resuscitation / Surgical instruments**

The kit has been designed for general medicine under primitive conditions, and for that reason no equipment for resuscitation or major surgery has been included. In situations of war, earthquakes or epidemics, specialised teams with medical equipment and supplies will be required.

### **Sterilization**

A complete sterilization set is provided in the kit. The basic units contain two small drums each for sterile dressing materials. Two drums are included to enable the alternate sterilization of one at the first referral level while the other is being used in the peripheral facility. The supplementary unit contains a kerosene stove and two pressure sterilizers, a small one for sterilizing 2 ml and 5 ml syringes, and a larger one for the small drums with dressing materials and the instrument sets.

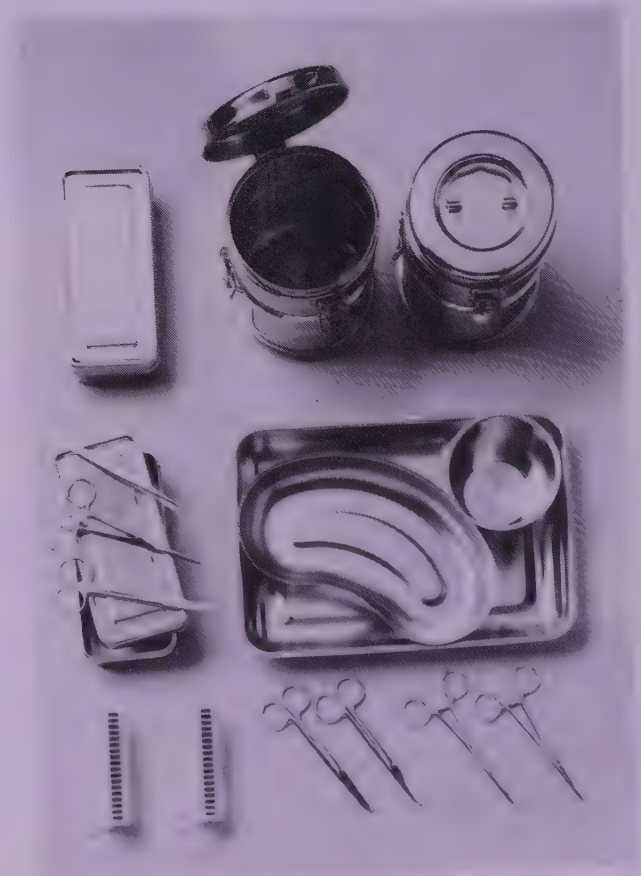
### **Dilution and storage of liquids**

The kit contains several plastic bottles and a few large disposable syringes which are needed to dilute and store liquids (e.g. benzyl benzoate,

chlorhexidine and gentian violet solution).

### **Water supply**

The kit contains several items to help provide for clean water at the health facility. Each basic unit contains a 20 litre foldable jerrycan and a plastic bucket. The supplementary unit contains a water filter with candles and 2.5 kg of chloramine powder to chlorinate the water.



## Chapter 3: Composition of the New Emergency Health Kit



1000 persons for 3 months. Each unit contains drugs, renewable supplies and basic equipment, and is packed in one carton.

**1 supplementary unit** (for physicians and senior health workers, for a population of 10,000 people for 3 months).

One supplementary unit contains:

- drugs (approximately 130 kg)
- essential infusions (approximately 180 kg)
- renewable supplies (approximately 60 kg)
- equipment (approximately 40 kg)

**T**he New Emergency Health Kit consists of ten basic units and one supplementary unit.

**10 basic units** (for basic health workers), each unit for a population of

NB: The supplementary unit does not contain any drugs and medical supplies from the basic unit. To be operational, the supplementary unit should be used together with ten basic units.

1,000	1,000	1,000	1,000	1,000	}	10 × 1 basic unit 10 × (45 kg/0,20 m <sup>3</sup> )	}	1 emergency health kit for 10,000 persons for 3 months approx. 860 kg, 4 m <sup>3</sup>
1,000	1,000	1,000	1,000	1,000				
10,000					}	1 supplementary unit: approx. 410 kg - 2 m <sup>3</sup>		



**Basic unit** (for 1,000 persons 3 months)**Drugs**

Acetylsalicylic acid, tab 300 mg	tab	3000
Aluminium hydroxyde, tab 500 mg	tab	1000
(1) Benzyl benzoate, lotion 25%	bottle 1 litre	1
(2) Chlorhexidine (5%)	bottle 1 litre	1
Chloroquine, tab 150 mg base	tab	2000
Ferrous sulfate + folic acid, tab 200 + 0.25 mg	tab	2000
Gentian violet, powder	25 g	4
Mebendazole, tab 100 mg	tab	500
ORS (oral rehydration salts)	sachet for 1 litre	200
Paracetamol, tab 100 mg	tab	1000
Sulfamethoxazole + trimethoprim, tab 400 + 80 mg (cotrimoxazole)	tab	2000
Tetracycline eye ointment 1%	tube 5 g	50

**Renewable supplies**

Absorbent cotton wool	kg	1
Adhesive tape 2.5 cm x 5 m	roll	30
Bar of soap (100-200 g)	bar	10
Elastic bandage (crepe) 7.5 cm x 10 m	unit	20
Gauze bandage 7.5 cm x 10 m	roll	100
Gauze compresses 10 x 10 cm, 12 ply, nonsterile	unit	500
Ballpen, blue or black	unit	10
Exercise book A4, hard cover	unit	4
(3) Health card + plastic cover	unit	500
Small plastic bag for drugs	unit	2000
Notepad A6	unit	10
Thermometer Celsius / Fahrenheit	unit	6
Protective glove, nonsterile, disposable	unit	100
(4) Treatment guidelines for basic list	unit	2

- 1) According to WHO recommendations benzyl benzoate solution 25% concentration is being supplied. The use of 90% concentration is not recommended.
- 2) Chlorhexidine 20% needs distilled water for dilution, otherwise precipitation may occur. 5% solution is WHO standard. Alternatives include the combination of chlorhexidine 1.5% and cetrimide 15%.
- 3) For a sample health card, see Annex 5.
- 4) For sample treatment guidelines, see Annexes 1, 2 and 3.

**Equipment**

Nail brush, plastic, autoclavable	unit	2
Bucket, plastic, approx. 20 litres	unit	1
Gallipot, stainless steel, 100 ml	unit	1
Kidney dish, stainless steel, approx. 26 × 14 cm	unit	1
(1) Dressing set (3 instruments + box)	unit	2
Dressing tray, stainless steel, approx. 30 × 15 × 3 cm	unit	1
Drum for compresses, approx. 15 cm H, diam. 14 cm	unit	2
Foldable jerrycan, 20 litres	unit	1
Forceps Kocher, no teeth, 12-14 cm	unit	2
Plastic bottle, 1 litre	unit	3
Syringe Luer, disposable, 10 ml	unit	1
Plastic bottle, 125 ml	unit	1
Scissors straight/blunt, 12-14 cm	unit	2

---

**1) Dressing set (3 instruments + box):**

- 1 stainless steel box approx. 17 x 7 x 3 cm
- 1 pair surgical scissors, sharp/blunt, 12-14 cm
- 1 Kocher forceps, no teeth, straight, 12-14 cm
- 1 dissecting forceps, no teeth, 12-14 cm



## Supplementary unit (for 10,000 persons for 3 months)

### Drugs

#### Anaesthetics

Ketamine, inj. 50 mg/ml	10 ml/vial	25
(1) Lidocaine, inj. 1%	20 ml/vial	50

#### Analgesics

(2) Pentazocine, inj. 30 mg/ml	1 ml/ampoule	50
(3) Probenecid, tab 500 mg	tab	500

#### Recall from basic unit:

Acetylsalicylic acid, 300 mg/tab	(10 x 3,000) 30,000
Paracetamol, 100 mg/tab	(10 x 1,000) 10,000

#### Anti-allergics

Dexamethasone, inj. 4 mg/ml	1 ml/ampoule	50
Prednisolone, tab 5 mg	tab	100
Epinephrine (adrenaline), see "respiratory tract"		

#### Anti-epileptics

Diazepam, inj. 5 mg/ml	2 ml/ampoule	200
Phenobarbital, 50 mg	tab	1000

#### Anti-infective drugs

(4) Ampicillin, tab 250 mg	tab	2000
(4) Ampicillin, inj. 500 mg/vial	vial	200
Benzathine benzylpenicillin, inj. 2,4 MIU/vial.	vial	50
Chloramphenicol, caps 250 mg	caps	2000
Chloramphenicol, inj. 1 g/vial	vial	500
Metronidazole, tab 250 mg	tab	2000
(5) Nystatin, non-coated tablet	100,000 IU/tab	2000

- 1) 20 ml vials are preferred, although 50 ml vials may be used as an alternative
- 2) Because of narcotic drugs regulation, pentazocine has been chosen as an alternative to morphine or pethidine
- 3) To be used with penicillin in the treatment of gonorrhea
- 4) Ampicillin tablets and injections to be used only in neonates and pregnant women
- 5) For the treatment of oral candidiasis

Phenoxymethylpenicillin, tab 250 mg	tab	4000
(1) Procaine benzylpenicillin, inj. 3-4 MU/vial	vial	1000
(2) Quinine, inj. 300 mg/ml	2 ml/ampoule	100
Quinine sulfate, tab 300 mg	tab	3000
(3) Sulfadoxine + pyrimethamine, tab 500 mg + 25 mg	tab	300
(4) Tetracycline, caps or tab 250 mg	caps or tab	2000

Recall from basic unit:

Mebendazole, tab 100 mg	(10 × 500) 5,000
Cotrimoxazole, tab 400 + 80 mg	(10 × 2,000) 20,000
Chloroquine, tab 150 mg base	(10 × 2,000) 20,000

**Blood, drugs affecting the**

Folic acid, tab 1 mg	5000
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Recall from basic unit:

Ferrous sulfate + folic acid, tab 200 + 0.25 mg	(10 × 2000) 20,000
---	--------------------

**Cardiovascular drugs**

(5) Methyldopa, 250 mg	tab	500
Hydralazine, inj. 20 mg/ml	1 ml/ampoule	20

**Dermatological**

(6) Polyvidone iodine 10%, sol, 500 ml	bottle	4
Zinc oxyde 10% ointment	kg	2
Benzoic acid 6% + salicylic acid 3% ointment	kg	1

Recall from basic unit:

Tetracycline eye ointment, 1%	(10 × 50) 500
Gentian violet, powder 25 g	(10 × 4) 40
Benzyl benzoate, lotion 25%, litre	(10 × 1) 10

- 1) The combination of procaine benzylpenicillin 3 MU and benzylpenicillin 1 MU (procaine penicillin fortified), is used in many countries and may be included as an alternative.
- 2) For the treatment of cerebral and resistant malaria cases. Intravenous injection of quinine must always be diluted in 500 ml glucose 5%.
- 3) For the treatment of resistant malaria strains (check national protocols).
- 4) For the treatment of cholera and chlamydia infections.
- 5) For the treatment of hypertension in pregnancy.
- 6) Polyvidone iodine has been chosen because the use of iodine tincture in hot climates may result in toxic concentrations of iodine by partial evaporation of the alcohol.



### Diuretics

Furosemide, inj. 10 mg/ml	2 ml/ampoule	20
Furosemide, tab 40 mg	tab	200

### Gastro-intestinal drugs

Promethazine, tab 25 mg	tab	500
Promethazine, inj. 25 mg/ml	2 ml/ampoule	50
Atropine, inj. 1 mg/ml	1 ml/ampoule	50

### Recall from basic unit:

Aluminium hydroxide, tab 500 mg	(10 x 1000) 10,000
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### Oxytoxics

Ergometrine maleate, inj. 0.2 mg/ml	1 ml/ampoule	200
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### Psychotherapeutic drugs

Chlorpromazine, inj. 25 mg/ml	2 ml/ampoule	20
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### Respiratory tract, drugs acting on

Aminophylline, tab 100 mg	tab	1000
Aminophylline, inj. 25 mg/ml	10 ml/ampoule	50
Epinephrine (adrenaline), inj. 1 mg/ml	1 ml/ampoule	50

### Solutions correcting water, electrolyte and acid-base disturbances <sup>(1)</sup>

Compound solution of sodium lactate (Ringer's Lactate), inj. sol., with giving set and needle	500 ml/bag	200
(2) Glucose, inj. sol. 5%, with giving set and needle	500 ml/bag	100
Glucose, inj. sol 50%	50 ml/vial	20
Water for injection	10 ml/plastic vial	2000

### Recall from basic unit:

Oral rehydration salts	(10 x 200) 2,000
------------------------	------------------

1) Because of the weight, the quantity of infusions included in the kit is minimal. Look for local supply, once in the field.

2) Glucose 5%, bag 500 ml, for dilution of quinine/injection.

### ***Vitamins***

Retinol (Vitamin A), caps 200,000 IU	caps	4000
Ascorbic acid, tab 250 mg	tab	4000

### **Renewable supplies**

Scalp vein infusion set, disposable, 25G (diam. 0.5 mm)	unit	300
Scalp vein infusion set, disposable, 21G (diam. 0.8 mm)	unit	100
IV placement canula, disposable, 18G (diam. 1.7 mm)	unit	15
IV placement canula, disposable, 22G (diam. 0.9 mm)	unit	15
Needle Luer IV, disposable, 19G (diam. 1.1 mm × 38 mm)	unit	1,000
Needle Luer IM, disposable, 21G (diam. 0.8 mm × 40 mm)	unit	2,000
Needle Luer SC, disposable, 25G (diam. 0.5 mm × 16 mm)	unit	100
Spinal needle, disposable, 20G (64 mm - diam. 0.9 mm)	unit	30
Spinal needle, disposable, 23G (64 mm - diam. 0.7 mm)	unit	30
Syringe Luer resterilisable, nylon, 2 ml	unit	20
Syringe Luer resterilisable, nylon, 5 ml	unit	100
Syringe Luer resterilisable, nylon, 10 ml	unit	40
Syringe Luer, disposable, 2 ml	unit	400
Syringe Luer, disposable, 5 ml	unit	500
Syringe Luer, disposable, 10 ml	unit	200
Syringe conic connector (for feeding), 60 ml	unit	20
Feeding tube, CH5 (premature baby), disposable	unit	20
Feeding tube, CH8, disposable	unit	50
Feeding tube, CH16, disposable	unit	10
Urinary catheter (Foley), n°12, disposable	unit	10
Urinary catheter (Foley), n°14, disposable	unit	5
Urinary catheter (Foley), n°18, disposable	unit	5
Surgical gloves sterile and resterilisable n°6.5	pair	50
Surgical gloves sterile and resterilisable n°7.5	pair	150
Surgical gloves sterile and resterilisable n°8.5	pair	50

### **Recall from basic unit:**

*Protective glove, non-sterile disposable* (100 units x 10) 1,000

Sterilization test tape (for autoclave)	roll	2
Chloramine, tabs or powder	kg	2.5
Thermometer (oral/rectal) dual Celsius/Fahrenheit	unit	10
Spare bulb for otoscope	unit	2
Batteries R6 alkaline AA size (for otoscope)	unit	6



Recall from basic unit:

<i>Thermometer (oral/rectal) Celsius/Fahrenheit</i>	(6 units × 10) 60
<i>Ballpens</i>	(10 units × 10) 100
<i>Hardcover exercise book</i>	(4 units × 10) 40
<i>Health card + plastic cover</i>	(500 units × 10) 5,000
<i>Plastic bag for drugs</i>	(2,000 units × 10) 20,000
<i>Small notepads (A6)</i>	(10 units × 10) 100

Urine collecting bag with valve, 2000 ml	unit	10
Finger stall 2 fingers, disposable	unit	300
Suture, synthetic absorbable, braided, size DEC.2 (000) with cutting needle curved 3/8, 20 mm triangular	unit	24
Suture, synthetic absorbable, braided, size DEC.3 (000) with cutting needle curved 3/8, 30 mm triangular	unit	36
Surgical blade (surgical knives) n°22 for handle n°4	unit	50
Razor blade	unit	100
Tongue depressor (wooden, disposable)	unit	100
Gauze roll 90 m × 0.90 m	roll	3
Gauze compresses, 10 × 10 cm, 12 ply, sterile	unit	1000

Recall from basic unit:

<i>Absorbent cotton wool</i>	(1 kg × 10) 10
<i>Adhesive tape 2.5 cm × 5 m</i>	(30 rolls × 10) 300
<i>Bar of soap (200 g/bar)</i>	(10 bars × 10) 100
<i>Elastic bandage (crepe), 7.5 cm × 10 m</i>	(20 units × 10) 200
<i>Gauze bandage 7.5 cm × 10 m</i>	(100 rolls × 10) 1000
<i>Gauze compress 10 × 10 cm, 12 ply, nonsterile</i>	(500 units × 10) 5000

Equipment

Clinical stethoscope, dual cup	unit	2
Obstetrical stethoscope (metal)	unit	1
Sphygmomanometer (adult)	unit	2
Razor non disposable	unit	2
Scale for adult	unit	1
Scale hanging 25 kg × 100 g (Salter type) + trousers	unit	3
Tape measure	unit	5
Drum for compresses, H: 15 cm, diam. 14 cm	unit	2

Recall from basic unit:

<i>Drum for compresses, H: 15 cm, diam. 14 cm</i>	(2 units × 10) 20
---	-------------------

Otoscope + set of paediatric speculums	unit	1
Tourniquet	unit	2
Dressing tray, stainless steel, approx. 30 × 15 × 3 cm	unit	1
Kidney dish, stainless steel, approx. 26 × 14 cm	unit	1
Scissors straight/blunt, 12/14 cm	unit	2
Forceps Kocher no teeth, 12/14 cm	unit	2

Recall from basic unit:

<i>Kidney dish, stainless steel, approx. 26 x 14 cm</i>	<i>(1 unit x 10)</i>	<i>10</i>
<i>Gallipot stainless, 100 ml</i>	<i>(1 unit x 10)</i>	<i>10</i>
<i>Dressing tray, stainless steel, approx. 30 × 15 × 3 cm</i>	<i>(1 unit x 10)</i>	<i>10</i>
<i>Scissors straight/blunt, 12-14 cm</i>	<i>(2 units x 10)</i>	<i>20</i>
<i>Forceps Kocher no teeth, 12-14 cm</i>	<i>(2 units x 10)</i>	<i>20</i>

(1) Abscess/suture set (7 instruments + box)	unit	2
(2) Dressing set (3 instruments + box)	unit	5

Recall from basic unit:

<i>Dressing set (3 instruments + box)</i>	<i>(2 units x 10)</i>	<i>20</i>
---	-----------------------	-----------

Pressure sterilizer, 7.5 litres (type: Prestige 7506, double rack, ref. UNIPAC 01.571.00)	unit	1
Additional rack Public Health Care 2ml/5ml, ref. Prestige 7531	unit	2
Pressure sterilizer, 20-40 litres with basket (type UNIPAC 01.560.00)	unit	1
Kerosene stove, single burner (type UNIPAC 01.700.00)	unit	2
Water filter with candles, 10/20 litres (type UNIPAC 56.199.02)	unit	3
Nail brush, plastic, autoclavable	unit	2

1) Abscess/suture set (7 instruments + box):

- 1 stainless steel box approx. 20 x 10 x 5 cm
- 1 dissecting forceps with teeth, 12-14 cm
- 1 Kocher forceps with teeth, straight, 12-14 cm
- 1 Pean forceps straight, 12-14 cm
- 1 pair surgical scissors sharp/blunt, 12-14 cm
- 1 probe, 12-14 cm
- 1 Mayo-Hegar needle holder, 18 cm
- 1 handle scalpel, N°4

2) Dressing set (3 instruments + box)

- 1 stainless steel box approx. 17 x 7 x 3 cm
- 1 pair surgical scissors sharp/blunt, 12-14 cm
- 1 Kocher forceps, no teeth, straight, 12-14 cm
- 1 dissecting forceps, no teeth, 12-14 cm



<u>Recall from basic unit:</u>		
Plastic bottle, 1 litre	(3 units × 10)	30
Syringe Luer, disposable, 10 ml	(1 unit × 10)	10
Plastic bottle, 125 ml	(1 unit × 10)	10
Brush plastic (nail brush) autoclavable	(2 units × 10)	20
Bucket plastic, 20 litres	(1 unit × 10)	10
Foldable jerrycan, 20 litres	(1 unit × 10)	10
Portable weight/height chart (UNIPAC 01.455.70)	unit	1
(1) Clinical guidelines (diagnostic and treatment manual)		2

1) "Clinical Guidelines - Diagnostic and Treatment Manual" is available at cost price in English, French and Spanish from Médecins sans Frontières.





## Annex 1

**Basic unit: Treatment Guidelines**

These treatment guidelines are intended to give simple guidance for the training of primary health care workers using the basic unit. In the dosage guidelines, five age groups have been distinguished. When dosage is shown as 1 tab.  $\times$  2, one tablet should be taken in the morning and one before bedtime. When dosage is shown as 2 tab.  $\times$  3, two tablets should be taken in the morning, two should be taken in the middle of the day and two before bedtime.

The treatment guidelines contain the following diagnosis/symptom groups:

- Anemia
- Pain
- Diarrhoea: *see detailed diagnosis and treatment schedules in Annex 2A-C.*
- Fever
- Respiratory tract infections: *see detailed diagnosis and treatment schedules in Annex 3.*
- Measles
- Eye
- Skin conditions
- Urinary tract infections
- Sexually transmitted disease
- Preventive care in pregnancy
- Worms

WEIGHT AGE DIAGNOSIS SYMPTOM	0 - <4 kg	4 - <8 kg	8 - <15 kg	15 - <35 kg	35 kg +
	0 - <2 mths	2 mths - <1 yr	1 - <5 yrs	5 - <15 yrs	15 yrs +

## → ANEMIA

<b>Severe anemia</b> (oedemas, dizziness, shortness of breath)	<b>Refer</b>				
<b>Moderate anemia</b> (pallor and tiredness)	<b>Refer</b>	<i>Ferrous sulfate</i> + <i>Folic Acid</i> 1 tab. daily for at least 2 months	<i>Ferrous sulfate</i> + <i>Folic Acid</i> 2 tab. daily for at least 2 months	<i>Ferrous sulfate</i> + <i>Folic Acid</i> 3 tab. daily for at least 2 months	<i>Ferrous sulfate</i> + <i>Folic Acid</i> 3 tab. daily for at least 2 months

## → PAIN

<b>Pain</b> (headache, joint pain toothache...)		<i>Paracetamol</i> tab 100 mg 1/2 tab $\times$ 3	<i>Paracetamol</i> tab 100 mg 1 tab $\times$ 3	<i>ASA</i> <sup>(1) (2)</sup> tab 300 mg 1 tab $\times$ 3	<i>ASA</i> <sup>(1)</sup> tab 300 mg 2 tab $\times$ 3
<b>Stomach pain</b>			<b>Refer</b>	<i>Aluminium hydroxide</i> 1/2 tab $\times$ 3 for 3 days	<i>Aluminium hydroxide</i> 1 tab $\times$ 3 for 3 days

1) ASA = Acetylsalicylic Acid.

2) For children under 12 paracetamol is to be preferred because of the risk of Reye's Syndrome.

WEIGHT AGE DIAGNOSIS SYMPTOM	0 - <4 kg	4 - <8 kg	8 - <15 kg	15 - <35 kg	35 kg +
	0 - <2 mths	2 mths - <1 yr	1 - <5 yrs	5 - <15 yrs	15 yrs +

→ **DIARRHOEA**

<b>Diarrhoea lasting more than two weeks or in mal-nourished or poor condition patient</b>	Give <i>ORS</i> according to dehydration stage and <b>refer</b>				
<b>Bloody diarrhoea</b> <sup>(1)</sup> (Check the presence of blood in stools)	Give <i>ORS</i> according to dehydration stage and <b>refer</b>				
<b>Diarrhoea with severe dehydration</b> (Plan C, WHO) Annex 2d	<i>ORS</i> , 100 ml/kg as soon as possible, and refer patient for nasogastric tube and/or IV treatment				
<b>Diarrhoea with some dehydration</b> (Plan B, WHO) Annex 2c	Treat with <i>ORS</i> , 50-100 ml/kg in first 4-6 hours, reassess the condition after 4-6 hours				
	250 ml within 6 h	500 ml within 6 h	1 litre within 6 h	2 litres within 6 h	3 litres or + within 6 h
<b>Diarrhoea with no dehydration</b> (Plan A, WHO) Annex 2b	<ul style="list-style-type: none"> <li>- Continue to feed.</li> <li>- Advise the patient to return to health worker in case of frequent stools, increased thirst, sunken eyes, fever or when the patient does not eat or drink normally, or does not get better.</li> </ul>				

→ **FEVER**

<b>Fever in mal-nourished or poor condition patient or when in doubt</b>	<b>Refer</b>				
<b>Fever with chills</b> <sup>(2)</sup> assuming it is malaria	<b>Refer</b>	<i>Chloroquine</i> <sup>(2)</sup> tab 150 mg base 1/2 tab at once, then 1/4 tab after 6h, 24h and 48h	<i>Chloroquine</i> <sup>(2)</sup> tab 150 mg base 1 tab at once, then 1/2 tab after 6h, 24h and 48h	<i>Chloroquine</i> <sup>(2)</sup> tab 150 mg base 2 tab at once, then 1 tab 6h, 24h et 48h	<i>Chloroquine</i> <sup>(2)</sup> tab 150 mg base 4 tab at once, then 2 tab after 6h, 24h et 48h
<b>Fever with cough</b>	<b>Refer</b>	See "Respiratory tract infection"			
<b>Fever (unspecified)</b>	<b>Refer</b>	<i>Paracetamol</i> tab 100 mg 1/2 tab × 3 for 1 to 3 days	<i>Paracetamol</i> tab 100 mg 1 tab × 3 for 1 to 3 days	<i>ASA</i> <sup>(3)</sup> tab 300 mg 1 tab × 3 for 1 to 3 days	<i>ASA</i> tab 300 mg 2 tab × 3 for 1 to 3 days

1) Protocol to be established according to epidemiological data. Cotrimoxazole will usually be effective.

2) Chloroquine 150 mg base is equivalent to 250 mg chloroquine phosphate or to 200 mg chloroquine sulfate.

3) For children under 12 paracetamol is to be preferred because of the risk of Reye's Syndrome.



WEIGHT AGE DIAGNOSIS SYMPTOM	0 - <4 kg	4 - <8 kg	8 - <15 kg	15 - <35 kg	35 kg +
	0 - <2 mths	2 mths - <1 yr	1 - <5 yrs	5 - <15 yrs	15 yrs +

→ RESPIRATORY TRACT INFECTIONS

<b>Severe pneumonia</b> Annex 3	Give the first dose of cotrimoxazole (see pneumonia) and <b>refer</b>				
<b>Pneumonia</b> Annex 3	<b>Refer</b>	<i>Cotrimoxazole</i> tab 400 mg SMX + 80 mg TMP 1/2 tab × 2 for 5 days	<i>Cotrimoxazole</i> tab 400 mg SMX + 80 mg TMP 1 tab × 2 for 5 days	<i>Cotrimoxazole</i> tab 400 mg SMX + 80 mg TMP 1 tab × 2 for 5 days	<i>Cotrimoxazole</i> tab 400 mg SMX + 80 mg TMP 2 tab × 2 for 5 days
		Reassess after 2 days; continue (breast) feeding, give fluids, clear the nose; return if breathing becomes faster or more difficult, or not able to drink or when the condition deteriorates.			
<b>No pneumonia: cough or cold</b> Annex 3	<b>Refer</b>	<i>Paracetamol</i> <sup>(1)</sup> tab 100 mg 1/2 tab × 3 for 3 days	<i>Paracetamol</i> <sup>(1)</sup> tab 100 mg 1 tab × 3 for 3 days	<i>ASA</i> <sup>(1)(2)</sup> tab 300 mg 1 tab × 3 for 3 days	<i>ASA</i> <sup>(1)</sup> tab 300 mg 2 tab × 3 for 3 days
		Supportive therapy; continue (breast) feeding, give fluids, clear the nose; return if breathing becomes faster or more difficult, or not able to drink or condition deteriorates.			
<b>Prolonged cough</b> (over 30 days)	<b>Refer</b>				
<b>Acute ear pain and/or ear discharge</b> For less than 2 weeks	<b>Refer</b>	<i>Cotrimoxazole</i> tab 400 mg SMX + 80 mg TMP 1/2 tab × 2 for 5 days <sup>(1)</sup>	<i>Cotrimoxazole</i> tab 400 mg SMX + 80 mg TMP 1 tab × 2 for 5 days <sup>(1)</sup>	<i>Cotrimoxazole</i> tab 400 mg SMX + 80 mg TMP 1 tab × 2 for 5 days	<i>Cotrimoxazole</i> tab 400 mg SMX + 80 mg TMP 2 tab × 2 for 5 days
<b>Ear discharge</b> For more than 2 weeks, no pain or fever	Clean the ear once daily by syringe without needle using lukewarm clean water. Repeat until the water comes out clean. Dry repeatedly with clean piece of cloth.				

1) If fever is present.

2) For children under 12 paracetamol is to be preferred because of the risk of Reye's syndrome.

WEIGHT AGE DIAGNOSIS SYMPTOM	0 - <4 kg	4 - <8 kg	8 - <15 kg	15 - <35 kg	35 kg +
	0 - <2 mths	2 mths - <1 yr	1 - <5 yrs	5 - <15 yrs	15 yrs +

→ **MEASLES**

<b>Measles</b>		Treat respiratory tract disease according to symptoms. Treat conjunctivitis as "Red eyes". Treat diarrhoea according to symptoms. Continue (breast) feeding. Give retinol (vitamin A)	
----------------	--	--	--

→ **EYE**

<b>Red eyes</b> (conjunctivitis)	Apply <i>tetracycline eye ointment</i> 3 times a day for 7 days. If not improved after 3 days or in doubt: <b>refer</b>
-------------------------------------	--

→ **SKIN CONDITIONS**

<b>Wounds:</b> extensive, deep or on face	<b>Refer</b>	
<b>Wounds: limited and superficial</b>	Clean with clean water and soap or with <u>diluted chlorhexidine solution</u> *. Apply <i>gentian violet solution</i> ** once a day.	
<b>Severe burns</b> (on face or very extensive)	Treat as for mild burns, and <b>refer</b>	
<b>Mild moderate, burns</b>	Immerse <u>immediately</u> in cold water, or use a cold wet cloth. Continue until pain eases then, treat as wounds.	
<b>Severe bacterial in- fection (with fever)</b>	<b>Refer</b>	
<b>Mild bacterial infection</b>	Clean with clean water and soap or <u>diluted chlorhexidine solution</u> *. Apply <i>gentian violet</i> ** twice a day. If not improved after 10 days: <b>refer</b> .	
<b>Fungal infection</b>	Apply <i>gentian violet solution</i> ** once a day for 5 days.	
<b>Infected scabies</b>	Bacterial infection: clean with clean water and soap or <u>diluted chlorhexidine solution</u> * and apply <i>gentian violet solution</i> ** twice a day. When infection is cured:	
	Apply <u>diluted benzyl benzoate</u> *** once a day for 3 days	Apply <u>non-diluted benzyl benzoate 25%</u> once a day for 3 days
<b>Non infected scabies</b>	Apply <u>diluted benzyl benzoate</u> *** once a day for 3 days	Apply <u>non-diluted benzyl benzoate 25%</u> once a day for 3 days

\* Chlorhexidine 5% must always be diluted before use: 20 ml in 1 litre of water (take one litre plastic bottle supplied with kit. Put 20 ml of chlorhexidine solution into the bottle using the 10 ml syringe supplied with the kit. Fill up the bottle with boiled or clean water). Chlorhexidine 1.5% + cetrimide 15% solution should be used in the same dilution.

\*\* Dissolve gentian violet: 0.5% concentration = 1 teaspoon of gentian violet powder per litre of boiled/clean water.

\*\*\* Dilute by mixing one half litre benzyl benzoate 25% with one half litre clean water in the one litre plastic bottle supplied with the kit.



DIAGNOSIS SYMPTOM	WEIGHT	0 - < 4 kg	4 - < 8 kg	8 - < 15 kg	15 - < 35 kg	35 kg +
	AGE	0 - < 2 mths	2 mths - < 1 yr	1 - < 5 yrs	5 - < 15 yrs	15 yrs +

→ URINARY TRACT INFECTION

Suspicion of urinary tract infection	Refer
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→ SEXUALLY TRANSMITTED DISEASE

Suspicion of sexually transmitted disease (syphilis, gonorrhea)	Refer
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→ PREVENTIVE CARE IN PREGNANCY

<b>Anemia</b> for treatment see under Anemia		<i>Ferrous sulfate + folic acid</i> 1 tab. daily throughout pregnancy
<b>Malaria</b> for treatment see under Fever		<i>Chloroquine <sup>(1)</sup></i> tab. 150 mg base 2 tab. weekly, throughout pregnancy

→ WORMS

<b>Roundworm</b> <b>Pinworm</b>		<i>Mebenzadole</i> tab. 100 mg 2 tab. once	<i>Mebenzadole</i> tab. 100 mg 2 tab. once	<i>Mebendazole</i> tab. 100 mg 2 tab. once
<b>Hookworm</b>		<i>Mebenzadole</i> tab. 100 mg 1 tab. × 2 for 3 days	<i>Mebenzadole</i> tab. 100 mg 1 tab. × 2 for 3 days	<i>Mebenzadole</i> tab. 100 mg 1 tab. × 2 for 3 days

1) Chloroquine 150 mg base is equivalent to 250 mg chloroquine phosphate or to 200 mg chloroquine sulfate.

## Annex 2

# Assessment and treatment of diarrhoea

## Annex 2a

### Assessment of diarrhoea patients for dehydration

FIRST ASSESS YOUR PATIENT FOR DEHYDRATION			
	A	B	C
1. LOOK AT: Condition	Well, alert	<b>*Restless, irritable*</b>	<b>*Lethargic or unconscious; floppy*</b>
Eyes <sup>1)</sup>	Normal	Sunken	Very sunken and dry
Tears	Present	Absent	Absent
Mouth and Tongue <sup>2)</sup>	Moist	Dry	Very dry
Thirst	Drinks normally, not thirsty	<b>*Thirsty, drinks eagerly*</b>	<b>*Drinks poorly or not able to drink*</b>
2. FEEL: Skin pinch <sup>3)</sup>	Goes back quickly	<b>*Goes back slowly*</b>	<b>*Goes back very slowly*</b>
3. DECIDE:	The patient has NO SIGNS OF DEHYDRATATION	If the patient has two or more signs, including at least one <b>*sign*</b> , there is SOME DEHYDRATION	If the patient has two or more signs, including at least one <b>*sign*</b> , there is SEVERE DEHYDRATION
4. TREAT:	Use Treatment Plan A	Weigh the patient, if possible, and use Treatment Plan B	Weigh the patient and use Treatment Plan C URGENTLY

- 1) In some infants and children the eyes normally appear somewhat sunken. It is helpful to ask the mother if the child's eyes are normal or more sunken than usual.
- 2) Dryness of the mouth and tongue can also be palpated with a clean finger. The mouth may always be dry in a child who habitually breathes through the mouth. The mouth may be wet in a dehydrated patient owing to recent vomiting or drinking.
- 3) The skin pinch is less useful in infants or children with marasmus (severe wasting) or kwashiorkor (severe undernutrition with oedema), or obese children.

Source: A Manual for the Treatment of Diarrhoea, WHO/CDD 1990.



## ***Treatment plan A to treat diarrhoea at home***

### ***Use this plan to teach the mother to:***

- Continue to treat at home her child's current episode of diarrhoea.
- Give early treatment for future episodes of diarrhoea.

### ***Explain the three rules for treating diarrhoea at home***

#### **1. GIVE THE CHILD MORE FLUIDS THAN USUAL TO PREVENT DEHYDRATION:**

- Use a recommended home fluid, such as a cereal gruel. If this is not possible, give plain water.
- Use ORS solution for children described in the box overleaf.
- Give as much of these fluids as the child will take. Use the amounts shown below for ORS as a guide.
- Continue giving these fluids until the diarrhoea stops.

#### **2. GIVE THE CHILD PLENTY OF FOOD TO PREVENT UNDERNUTRITION:**

- Continue to breast-feed frequently.
- If the child is not breast-fed, give the usual milk. If the child is less than 6 months old and not yet taking solid food, dilute milk or formula with an equal amount of water for 2 days.
- If the child is 6 months or older, or already taking solid food:
  - Also give cereal or another starchy food mixed, if possible, with pulses, vegetables, and meat or fish. Add 1 or 2 teaspoonfuls of vegetable oil to each serving.
  - Give fresh fruit juice or mashed banana to provide potassium.
  - Give freshly prepared foods. Cook and mash or grind food well.
  - Encourage the child to eat: offer food at least 6 times a day.
  - Give the same foods after diarrhoea stops, and give an extra meal each day for two weeks.

**3. TAKE THE CHILD TO THE HEALTH WORKER IF THE CHILD DOES NOT GET BETTER IN 3 DAYS OR DEVELOPS ANY OF THE FOLLOWING:**

- Many watery stools
- Repeated vomiting
- Marked thirst
- Eating or drinking poorly
- Fever
- Blood in the stool

***Children should be given ORS solutions at home, if:***

- They have been on Treatment Plan B or C.
- They cannot return to the health worker if the diarrhoea gets worse.
- It is national policy to give ORS to all children who see a health worker for diarrhoea.

**IF THE CHILD WILL BE GIVEN ORS SOLUTION AT HOME, SHOW THE MOTHER HOW MUCH ORS TO GIVE AFTER EACH LOOSE STOOL AND GIVE HER ENOUGH PACKETS FOR 2 DAYS:**

Age	Amount of ORS to give after each loose stool	Amount of ORS to provide for use at home
Less than 24 months	50-100 ml	500 ml/day
2 up to 10 years	100-200 ml	1000 ml/day
10 years or more	As much as wanted	2000 ml/day

- Describe and show the amount to be given after each stool using a local measure.

***Show the mother how to mix ORS.  
Show her how to give ORS:***

- Give a teaspoonful every 1-2 minutes for a child under 2 years.
- Give frequent sips from a cup for an older child.
- If the child vomits, wait 10 minutes. Then give the solution more slowly (for example, a spoonful every 2-3 minutes).
- If diarrhoea continues after the ORS packets are used up, tell the mother to give other fluids as described in the first rule above or return for more ORS.



## Annex 2c

## Treatment Plan B to treat dehydration

### APPROXIMATE AMOUNT OF ORS SOLUTION TO GIVE IN THE FIRST 4 HOURS

Age*	Less than 4 months	4-11 months	12-23 months	2-4 years	5-14 years	15 years or older
Weight:	Less than 5 kg	5-7.9 kg	8-10.9 kg	11-15.9 kg	16-29.9 kg	30 kg or more
In ml :	200-400	400-600	600-800	800-1200	1200-2200	2200-4000
In local measure						

\* Use the patient's age only when you do not know the weight. The approximate amount of ORS required (in ml) can also be calculated by multiplying the patient's weight (in grams) times 0.075.

- If the child wants more ORS than shown, give more.
- Encourage the mother to continue breast-feeding.
- For infants under 6 months who are not breast-fed, also give 100-200 ml clean water during this period.

### OBSERVE THE CHILD CAREFULLY AND HELP THE MOTHER GIVE ORS SOLUTION:

- Show her how much solution to give her child.
- Show her how to give it - a teaspoonful every 1-2 minutes for a child under 2 years, frequent sips from a cup for an older child.
- Check from time to time to see if there are problems.
- If the child vomits, wait 10 minutes and then continue giving ORS, but more slowly, for example, a spoonful every 2-3 minutes.
- If the child's eyelids become puffy, stop ORS and give plain water or breast milk. Give ORS according to Plan A when the puffiness is gone.

**AFTER 4 HOURS, REASSESS THE CHILD USING THE ASSESSMENT CHART. THEN SELECT PLAN A, B, OR C TO CONTINUE TREATMENT.**

- If there are **no signs of dehydration**, shift to Plan A. When dehydration has been corrected, the child usually passes urine and may also be tired and fall asleep.
- If signs indicating **some dehydration** are still present, repeat Plan B, but start to offer food, milk and juice as described in Plan A.
- If signs indicating **severe dehydration** have appeared, shift to Plan C.

**IF THE MOTHER MUST LEAVE BEFORE COMPLETING TREATMENT  
PLAN B:**

- Show her how much ORS to give to finish the 4-hour treatment at home.
- Give her enough ORS packets to complete rehydration, and for 2 more days as shown in Plan A.
- Show her how to prepare ORS solution.
- Explain to her the three rules in Plan A for treating her child at home:
  - to give ORS or other fluids until diarrhoea stops
  - to feed the child
  - bring the child back to the health worker, if necessary.



## Annexe 2d

## Treatment plan C to treat severe dehydration quickly

Follow the arrows. If answer is "yes", go across. If "no", go down.

START HERE

Can you give intravenous (IV) fluids immediately?

YES



- Start IV fluids immediately. If the patient can drink, give ORS by mouth while the drip is set up. Give 100 ml/kg Ringer's Lactate Solution (or, if not available, normal saline), divided as follows:

Age	First give 30 ml/kg in:	Then give 70 ml/kg in:
Infants (under 12 months)	1 hour*	5 hours
Older	30 minutes*	2 1/2 hours

\* Repeat once if radial pulse is still very weak or not detectable.

- Reassess the patient every 1-2 hours. If hydration is not improving, give the IV drip more rapidly.
- Also give ORS (about 5 ml/kg/hour) as soon as the patient can drink: usually after 3-4 hours (infants) or 1-2 hours (older patients).
- After 6 hours (infants) or 3 hours (older patients), evaluate the patient using the assessment chart. Then choose the appropriate Plan (A, B or C) to continue treatment.

NO

Is IV treatment available nearby, (within 30 minutes)?

YES

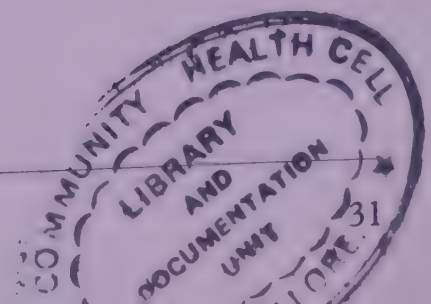


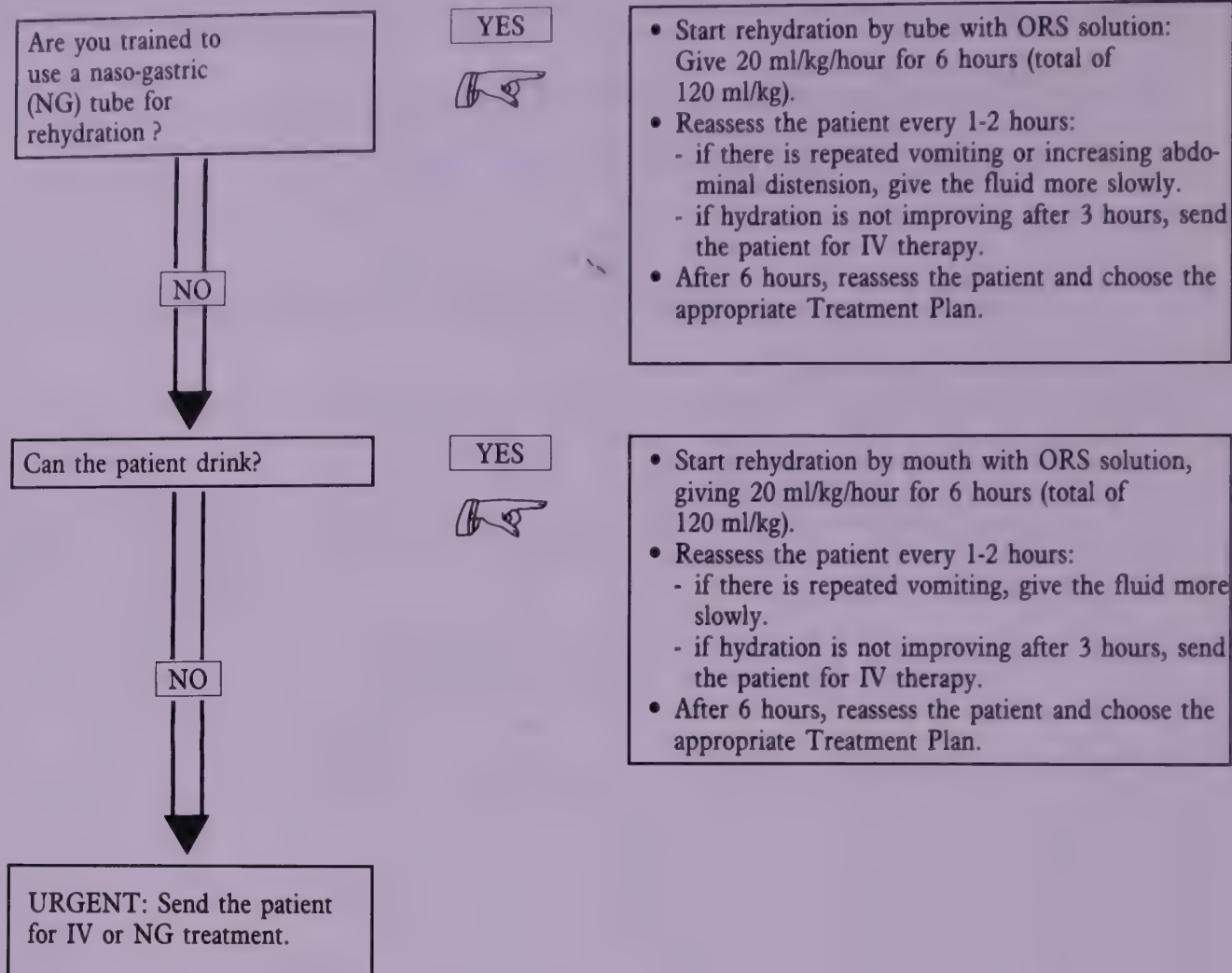
- Send the patient immediately for IV treatment.
- If the patient can drink, provide the mother with ORS solution and show her how to give it during the trip.

NO

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**NOTES:**

- If possible, observe the patient at least 6 hours after rehydration to be sure the mother can maintain hydration giving ORS solution by mouth.
- If the patient is above 2 years and there is cholera in your area, give an appropriate oral antibiotic after the patient is alert.



**Annex 3**

## ***Management of the child with cough or difficult breathing***

### **• Assess the child**

#### **Ask:**

- How old is the child?
- Is the child coughing? For how long?
- Is the child able to drink? (for children age 2 months up to 5 years)
- Has the young infant stopped feeding well? (for children less than 2 months)
- Has the child had fever? For how long?
- Has the child had convulsions?

#### **Look and listen:** (the child must be calm) :

- Count the breaths in one minute.
- Look for chest indrawing.
- Look and listen for stridor.
- Look and listen for wheeze. Is it recurrent?
- See if the child is abnormally sleepy, or difficult to wake.
- Feel for fever, or low body temperature (or measure temperature).
- Look for severe undernutrition.

### **• Decide how to treat the child**

- The child aged less than two months see Annex 3a (page 34)
- The child aged two months up to five years see Annex 3b (page 35)
  - who is not wheezing refer
  - who is wheezing see Annex 3c (page 36)
- Treatment instructions
  - Give an antibiotic
  - Advise mother to give home care
  - Treatment of fever

# **Annex 3a**

## ***The child aged less than two months***

<b>SIGNS:</b>	<ul style="list-style-type: none"> <li>• Not able to drink</li> <li>• Convulsions</li> <li>• Abnormally sleepy or difficult to wake</li> <li>• Stridor in calm child</li> <li>• Wheezing, or</li> <li>• Fever or low body temperature</li> </ul>	<ul style="list-style-type: none"> <li>• Fast breathing (60 per minute or MORE)</li> <li>or</li> <li>• Severe chest indrawing</li> </ul>	<ul style="list-style-type: none"> <li>• No fast breathing (LESS than 60 per minute)</li> <li>and</li> <li>• No severe chest indrawing</li> </ul>
<b>CLASSIFY AS:</b>	<b>VERY SEVERE DISEASE</b>	<b>SEVERE PNEUMONIA</b>	<b>NO PNEUMONIA: COUGH OR COLD</b>
<b>TREATMENT:</b>	<ul style="list-style-type: none"> <li>• Refer <b>URGENTLY</b> to hospital</li> <li>• Give first dose of an antibiotic</li> <li>• Keep young infant warm</li> </ul> <p>(If referral is not feasible, treat with an antibiotic and follow closely)</p>	<ul style="list-style-type: none"> <li>• Refer <b>URGENTLY</b> to hospital</li> <li>• Give first dose of an antibiotic</li> <li>• Keep young infant warm</li> </ul> <p>(If referral is not feasible, treat with an antibiotic and follow closely)</p>	<ul style="list-style-type: none"> <li>• Advise mother to give following home care: <ul style="list-style-type: none"> <li>- keep young infant warm</li> <li>- breastfeed frequently,</li> <li>- clear nose if it interferes with feeding</li> </ul> </li> <li>• Advise mother to return quickly if: <ul style="list-style-type: none"> <li>- illness worsens</li> <li>- breathing is difficult</li> <li>- breathing becomes fast</li> <li>- feeding becomes a problem</li> </ul> </li> </ul>



## Annex 3b

**The child aged two months to five years**

<b>SIGNS:</b>	<ul style="list-style-type: none"> <li>• Not able to drink</li> <li>• Convulsions</li> <li>• Abnormally sleepy or difficult to wake</li> <li>• Stridor in calm child or</li> <li>• Severe undernutrition</li> </ul>	<ul style="list-style-type: none"> <li>• Chest indrawing</li> </ul>	<ul style="list-style-type: none"> <li>• No chest indrawing and</li> <li>• Fast breathing (50 per minute or MORE if child 2-12 months of age or 40 per minute or MORE if child 1-5 years)</li> </ul>	<ul style="list-style-type: none"> <li>• No chest indrawing and</li> <li>• No fast breathing (LESS than 50 per minute if child 2-12 months of age or 40 per minute if child 1-5 years)</li> </ul>
<b>CLASSIFY AS:</b>	<b>VERY SEVERE DISEASE</b>	<b>SEVERE PNEUMONIA</b>	<b>PNEUMONIA</b>	<b>NO PNEUMONIA: COUGH OR COLD</b>
<b>TREATMENT:</b>	<ul style="list-style-type: none"> <li>• Refer URGENTLY to hospital</li> <li>• Give first dose of an antibiotic</li> <li>• Treat fever if present</li> <li>• If cerebral malaria is possible, give an antimalarial drug</li> </ul>	<ul style="list-style-type: none"> <li>• Refer URGENTLY to hospital</li> <li>• Give first dose of an antibiotic</li> <li>• Treat fever if present (If referral is not possible, treat with an antibiotic and follow closely)</li> </ul>	<ul style="list-style-type: none"> <li>• Advise mother to give home care</li> <li>• Give an antibiotic</li> <li>• Treat fever, if present</li> <li>• Advise mother to return with the child in 2 days for reassessment, or earlier if the child is getting worse</li> </ul>	<ul style="list-style-type: none"> <li>• If coughing more than 30 days, refer for assessment</li> <li>• Assess and treat ear problem or sore throat, if present</li> <li>• Assess and treat other problems</li> <li>• Advise mother to give home care</li> <li>• Treat fever, if present</li> </ul>



<b>Reassess in 2 days a child who is taking an antibiotic for pneumonia:</b>			
	<b>WORSE</b>	<b>THE SAME</b>	<b>IMPROVING</b>
<b>SIGNS:</b>	<ul style="list-style-type: none"> <li>• Not able to drink</li> <li>• Has chest indrawing</li> <li>• Has other danger signs</li> </ul>		<ul style="list-style-type: none"> <li>• Less fever</li> <li>• Eating better</li> <li>• Breathing slower</li> </ul>
<b>TREATMENT:</b>	<ul style="list-style-type: none"> <li>• Refer URGENTLY to hospital</li> </ul>	<ul style="list-style-type: none"> <li>• Change antibiotic or</li> <li>• Refer</li> </ul>	<ul style="list-style-type: none"> <li>• Finish 5 days of antibiotic</li> </ul>

## Annex 3c

### Treatment instructions

#### • Give an antibiotic

- Give first dose of antibiotic in clinic.
- Instruct mother on how to give the antibiotic for five days at home (or to return to clinic for daily procaine penicillin injection).

AGE  or  WEIGHT	COTRIMOXAZOLE Trimethoprim (TMP) + sulfamethoxazole (SMX)			AMOXICILLIN <sup>(3)</sup>		AMPICILLIN		PROCAINE PENICILLIN
	2 times daily for 5 days			3 times daily for 5 days		4 times daily for 5 days		1 time daily for 5 days
	Adult tablet single strength (80 mg TMP + 400 mg SMX)	Paediatric tablet (20 mg TMP + 100 mg SMX)	Syrup (40 mg TMP + 200 mg SMX)	Tablet 250 mg	Syrup 125 mg in 5 ml	Tablet 250 mg	Syrup 125 mg in 5 ml	Intramuscular injection
Less than 2 months ( $< 5$ kg) <sup>(1)</sup>	1/4 (2)	1 (2)	2.5 ml (2)	1/4	2.5 ml	1/2	2.5 ml	200,000 units
2 months up to 12 months (6-9 kg)	1/2	2	5.0 ml	1/2	5.0 ml	1	5.0 ml	400,000 units
12 months up to 5 years (10-19 kg)	1	3	7.5 ml	1	10.0 ml	1	5.0 ml	800,000 units

1) Give oral antibiotic for five days at home only if referral is not feasible.

2) If the child is less than 1 month old, give 1/2 paediatric tablet or 1.25 ml syrup twice daily. Avoid cotrimoxazole in infants less than one month of age who are premature or jaundiced.

3) Not included in kit but if available can be used as an alternative to ampicillin.



• **Advise mother to give home care  
(for the child age 2 months up to 5 years)**

- **Feed the child**
  - Feed the child during illness.
  - Increase feeding after illness.
  - Clear the nose if it interferes with feeding.
- **Increase fluids**
  - Offer the child extra to drink.
  - Increase breastfeeding.
- **Soothe the throat and relieve the cough with a safe remedy.**
- **Most important: In the child classified as having No Pneumonia: Cough or Cold, watch for the following signs and return quickly if they occur:**
  - Breathing becomes difficult.
  - Breathing becomes fast.
  - Child is not able to drink.
  - Child becomes sicker.

**This child may have pneumonia**

• **Treat Fever**

• Fever is high  
( $\geq 39^{\circ}\text{C}$ )

• Fever is not high  
( $38-39^{\circ}\text{C}$ )

• Give paracetamol

• Advise mother to give more fluids

In a falciparum malarious area:

- Any fever or
- History of fever

• Give an antimalarial (or treat according to your malaria programme recommendations)

• Fever for more than five 5 days

• Refer for assessment

**PARACETAMOL doses:**

- Every six hours

AGE or WEIGHT	100 mg tablet	500 mg tablet
2 months up to 12 months (6-9 kg)	1	1/4
12 months up to 3 years (10-14 kg)	1	1/4
3 years up to 5 years (15-19 kg)	1 1/2	1/2

**Fever alone is not a reason to give an antibiotic except in a young infant (age less than 2 months).**

**Give first dose of an antibiotic and refer urgently to hospital.**

# Annex 4

## Sample Monthly Activity Report

Diagnosis/Symptom Groups		<2 mths.	2-12 mths.	1-4 years	5-15 years	Adult	Total	%
ANEMIA	Severe							
	Moderate							
PAIN	Headache, joint pain							
	Stomach pain							
DIARRHOEA	More than 2 weeks							
	Bloody diarrhoea							
	Severe dehydration							
	Some dehydration							
	No dehydration							
FEVER	Malnourished patient							
	With chills							
	With cough							
	Unspecified							
RESPIRATORY TRACT INFECTION	Severe pneumonia							
	Pneumonia							
	Cold or cough							
	Prolonged cough							
	Acute ear pain							
	Ear discharge							
MEASLES								
RED EYES	(conjunctivitis)							
SKIN CONDITIONS	Extensive wounds							
	Limited, superficial wounds							
	Severe burns							
	Mild, moderate burns							
	Severe bacterial infection							
	Mild bacterial infection							
	Fungal infection							
	Infected scabies							
	Non infected scabies							
URINARY TRACT INFECTION								
SEXUALLY TRANSMITTED DISEASE								
PREV. CARE IN	Anemia							
PREGNANCY	Malaria							
WORMS	Roundworm, pinworm							
	Hookworm							
REFERRED PATIENTS								
REPEATED CONSULTATION FOR SAME DIAGNOSIS								
TOTAL								



## Sample Health Card

HEALTH CARD CARTE DE SANTÉ												CARD No. CARTE N°	
SITE LIEU		SECTION/HOUSE No. SECTION/HABITATION N°				DATE OF REGISTRATION DATE D'ENREGISTREMENT		DATE OF ARRIVAL AT SITE DATE D'ARRIVÉE SUR LE LIEU					
FAMILY NAME NOM DE FAMILLE		GIVEN NAMES PRENOMS		SEX SEXE		M/F		NAME COMMONLY KNOWN BY NOM D'USAGE HABITUEL					
DATE OF BIRTH OR AGE DATE DE NAISSANCE OU AGE		OR OU		YEARS ANS		FATHER'S NAME NOM DU PÈRE		PERCENTAGE WEIGHT/HEIGHT POURCENTAGE POIDS/TAILLE					
MOTHER'S NAME NOM DE LA MÈRE		CM		WEIGHT POIDS		KG							
HEIGHT TAILLE													
FEEDING PROGRAMME PROGRAMME D'ALIMENTATION													
MEASLES ROUGEOLE		DATE 1		2		BCG		DATE		OTHERS AUTRES			
POLIO POLIO		DATE		DPT POLIO DTC POLIO		DATE 1		2		3			
PREGNANT ENCEINTE		YES/NO OUI/NON		No. OF PREGNANCIES N° DE GROSSESSES		No. OF CHILDREN N° D'ENFANTS		LACTATING ALLAITANTE		YES/NO OUI/NON			
TETANUS TETANOS		DATE 1		2		3		4		5			
FEEDING PROGRAMME PROGRAMME D'ALIMENTATION													
O GENERAL (Family circumstances, living conditions, etc.) GÉNÉRALES (Circonstances familiales, conditions de vie, etc.)						HEALTH (Brief history present condition) MÉDICALES (Bref résumé de l'état actuel)							

Sample Health Card

DATE	CONDITION (Signs/symptoms/diagnosis)  ETAT (Signes/symptômes/ diagnostic)	TREATMENT (Medication/dose time)  TRAITEMENT (Médication/durée de la dose)	COURSES (Medication due/given)  APPLICATION (Médication requise/ effectuée)	OBSERVATIONS (Change in condition)/ NAME OF HEALTH WORKER  OBSERVATIONS (changement d'état)/ NOM DE L'AGENT DE SANTÉ



## ***Guidelines for suppliers***

### ***Quality***

1. The quality of the drugs must comply with internationally recognized pharmacopoeial standards.
2. At the time of shipment the product shall have at least two thirds of its shelf life.
3. Tablets should preferably be divisible and carry characteristic symbols for easy identification.
4. Drugs should be procured only from those manufacturers able to produce documents meeting the regulations of the WHO Certification Scheme on the Quality of Pharmaceutical Products moving in International Commerce.

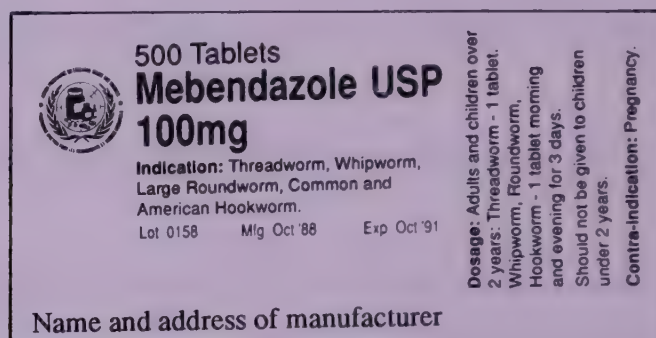
### ***Labelling***

1. Labelling should be in English and preferably one other official language of WHO.
2. All labels should display at least the following information:
  - International nonproprietary name (INN) of the active ingredient(s).
  - Dosage form.
  - Quantity of active ingredient(s) in the dosage form (e.g. tablet, ampoule) and the number of units per package.
  - Batch number.
  - Date of manufacture.
  - Expiry date (in clear language, not in code).
  - Pharmacopoeial standard (e.g. BP, USP...)
  - Instructions for storage.
  - Name and address of the manufacturer.
3. A printed label on each ampoule should contain the following:
  - INN of the active ingredient(s).
  - Quantity of the active ingredient.
  - Batch number.
  - Name of the manufacturer.
  - Expiry date.

The full label should again appear on the collective package.

4. Directions for use, warnings and precautions may be given in leaflets (package inserts). However, such leaflets should be considered as a supplement to labelling and not as an alternative.
5. For articles requiring reconstitution prior to use (e.g. powders for injection) a suitable beyond-use time for the constituted product should be indicated.

Example of label:



## **Packaging**

1. Tablets and capsules should be packed in sealed waterproof containers with replaceable lid, protecting the contents against light and humidity.
2. Liquids should be packed in unbreakable leak-proof bottles or containers.
3. Containers for all pharmaceutical preparations must conform to the latest edition of internationally recognized pharmacopoeial standards.
4. Ampoules must either have break-off necks, or sufficient files must be provided.
5. Each Basic Unit should be packed in one carton. The Supplementary Unit must be packed in cartons of max. 50 kg. The cartons should preferably have two handles attached. Drugs, renewable supplies, infusions and equipment should all be packed in separate cartons, with corresponding labels.
6. Each carton must be marked with a green label (the international colour code for medical supplies in emergency situations). The word "BASIC" must be printed on each green label for the basic unit.

## **Packing list**

Each consignment must be accompanied by a list of contents, stating the number of cartons and the type and quantity of drugs and other supplies in each carton.



**Annex 7**

**Useful addresses**

World Health Organization, Avenue Appia, CH-1211 Geneva-27, Switzerland.  
Telephone 41.22.7912111; telex 415416; telefax 41.22.7910746

United Nations High Commissioner for Refugees, Palais des Nations, CH-1211 Geneva-10, Switzerland. Telephone 41.22.7398111; telex 27492; telefax (general) 41.22.7319546; telefax (supplies) 7310776

UNICEF, Supply Division, Unicef Plads, Freeport, DK-2100 Copenhagen, Denmark.  
Telephone 45.31.262444; telex 19813; telefax 45.31.269421

OXFAM, 274 Banbury Road, Oxford OX2 7DZ, United Kingdom. Telephone 44.865.56777; telex 83610 ; telefax 44.865.57612

Médecins sans Frontières, 8 rue Saint-Sabin, 75011 Paris, France. Telephone 33.1.40212929; telex 214360; telefax 33.1.48066868

International Committee of the Red Cross, 17 Avenue de la Paix, CH-1202 Geneva, Switzerland. Telephone 41.22.7346001; telex 22269; telefax 41.22.7332057

League of Red Cross and Red Crescent Societies, P.O. Box 372, CH-1211 Geneva 19, Switzerland. Telephone 41.22.7345580; telex 22555 ; telefax 41.22.7330395

Christian Medical Commission of the World Council of Churches, P.O. Box 66, CH-1211 Geneva-20, Switzerland. Telephone 41.22.7916111; telex 23423; telefax 41.22.7910361

London School of Hygiene and Tropical Medicine, Keppel Street, London WC1E 7HT, United Kingdom. Telephone 44.11.6368636; telex 8953474; telefax 44.1.4365389

International Dispensary Association, P.O. Box 3098, 1003 AB Amsterdam, The Netherlands.  
Telephone 31.2903.3051; telex 13566; telefax 31.2903.1854

## **Notes**





The difficult and demanding conditions in the aftermath of large scale emergencies and disasters pose particular problems in the provision of health care. This publication explains how to use standardized packages of essential drugs, supplies and equipment under such circumstances. Both the concept and the contents of the kit, which was developed by WHO in collaboration with a large number of international and non-governmental agencies, are designed to expedite the provision of supplies in line with priority health needs. Although primarily addressed to relief agencies, the book also provides useful information for national authorities interested in stockpiling drugs and supplies in advance.

A complete emergency kit contains two separate sets of drugs and supplies. The first set consists of 10 identical packages of basic drugs and supplies intended for use by community health workers located in remote areas. The second, or supplementary kit, contains drugs, renewable supplies and equipment needed by doctors working in first- or second-referral health facilities.

The book provides background information on the development of the kit, a detailed description of its contents, treatment guidelines and some useful checklists for suppliers and prescribers. The lists of drugs and supplies were developed following years of study, field testing and modifications. They draw upon epidemiological data, population profiles and the specific disease patterns known to follow emergencies.

**Price: Sw.Fr. 8. —**

Price in developing countries: Sw.Fr. 5.60

**WHO/DAP/90.1**

Distribution: General